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103(a) as being unpatentable over McGill, III et al., U.S. Patent No. 5,469,573, (hereinafter McGill) in view of Hugard et al., U.S. Patent No. 5,745,669, (hereinafter Hugard). The rejections are traversed in view of the following remarks. Entry of the response and reconsideration of the claims under the provisions of 37 C.F.R. 1.116 is earnestly solicited.

The present invention is generally directed towards an Automated System Recovery (ASR) mechanism which provides a single, coherent and structured mechanism for backing up and restoring system state. A backup component copies and stores the state information that intrinsically defines the configuration of the computer system for potential and future recovery by obtaining and preserving the underlying description of the system, comprising data that is separate from the actual operating system and data files. The backed-up state information includes storage mechanism data, such as the disk geometry, structure and layout, number of disk partitions, how the partitions are arranged on the disk, and the location where the operating system is installed on the disk. Information specifying which programs to execute during the restore phase may also be included, including programs to copy and execute, any error handling, and any special driver files to load.

When recovery is desired, a restore component operates in a first phase to use the backed-up configuration information to compare with the current state of a new system, and the disk and volume state are restored according to the saved information. In the event that the partitions and disks are different during the restore phase, these boot and system partitions may be automatically reconfigured (or adjusted) in this first phase. Once the underlying system state of the storage mechanism is restored, a recovery environment is created by copying a set of files required to run the programs that will restore the remainder of the data, e.g., a second restore

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phase configures the environment for launching a restore program, including detecting and installing drivers and support for devices installed on the system. The restore program(s) are then run according to the instructions that were saved therewith during the backup phase, to restore the remainder of the data.

Note that the above description is for informational purposes only, and should not be used to interpret the claims, which are discussed below.

In contrast, neither McGill nor Hugard deal with the concept of automated system recovery via backup and restoration of *system state information* as recited in the claims. As recited in claim 1, for example, system state information includes "storage mechanism configuration data" that is used to automatically configure a storage mechanism. Claim 4 (which depends from claim 1) teaches that "writing the system state information includes writing hard disk configuration information as the storage mechanism configuration data." Claim 9 (which depends from claim 1) teaches that "automatically configuring the storage mechanism includes configuring at least one hard disk based on the storage mechanism configuration data." It is clear that neither McGill nor Hugard disclose or use "storage mechanism configuration data" as taught in these claims.

In McGill, "system configuration files" are "files previously copied to the recovery diskette from the fully configured PC." McGill, column 6, lines 15-18. No teaching or suggestion is made in McGill that the "system configuration files" include "storage mechanism configuration data," such as disk geometry, structure and layout, number of disk partitions, how the partitions are arranged on the disk, and/or a location where the operating system is installed on the disk. In fact, the "system configuration files" mentioned in McGill are simply copied from

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hard disk to recovery disk and back again upon restore. In other words, the only configuring discussed in McGill relates to copying files to appropriate file locations, and not to using the system configuration files to automatically configure a *storage mechanism*, (claim 1 and claim 39) or a hard disk (claim 27) as claimed by applicants.

Additionally, McGill teaches away from the present invention, as McGill makes it clear that its system configuration files are not used in "automatically configuring the storage mechanism" as recited in claim 1. McGill states that when a "recovery diskette (404) containing the necessary system configuration files is inserted into the PC," it is "[t]he operator [who] then determines if the hard drive being restored is to be partitioned (406)." If partitioning is desired, FDISK.COM is executed. McGill, column 7, lines 13-17. No disclosure or suggestion is made in McGill that the partitioning program selected, i.e., FDISK.COM, is an automated program that automatically configures a storage mechanism. Rather, the operator determines if the hard drive being restored is to be partitioned, and if so, FDISK.COM is executed. As known to those skilled in the art, the FDISK.COM referred to by McGill would require additional manual interaction in selecting partition parameters.

In McGill, even the formatting of an already-partitioned disk requires manual interaction. After partitioning, McGill indicates that "[n]ext, the *operator* determines whether or not to format (422) the hard drive prior partitions to restoring the operating system to that partition." McGill, column 7, lines 29-31 (emphasis added). If so, FORMAT.COM is executed to format the partition.

Moreover, nowhere in McGill is there a mention or suggestion of using the system configuration files to automatically configure a storage mechanism, let alone any suggestion of

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how this might be accomplished, or why this might be desirable. Thus, McGill does not disclose or suggest "storing mechanism configuration data" or "automatically configuring a storage mechanism based on the storage mechanism configuration data" as recited in claim 1.

The Office Action also specifically concedes that "McGill does not explicitly teach system state information." Office Action, page 5. In other words, McGill not only fails to disclose or suggest automatically configuring a storage mechanism, but indisputably fails to teach the storage or usage of system state information, let alone the system state information as recited in the claims of applicants' invention. Thus, McGill is missing at least this element of the applicants' claims (in addition to other elements described above).

To overcome this blatant deficiency in McGill, the Office action has attempted to combine Hugard with McGill. *Id.* The Office Action indicates that Hugard teaches "configuration data including AUTOEXEC.BAT, CONFIG.SYS, SYSTEM.INI ... and recovery tool files including *.INI, *.DRV, *.SYS, *.COM, *.EXE, etc." *Id.* However, by their very nature, these configuration data files cannot be related to system state information or storage mechanism configuration data, as they are not, and cannot be used to automatically configure a storage mechanism. These files are conventional data files and programs that are merely restored to an *already-configured* storage mechanism of a system. Nowhere does Hugard teach or suggest interpreting data that can configure any system hardware upon restore, let alone a hard drive, for example.

By law, to establish a prima facie case of obviousness, the prior art references must teach or suggest all the claim limitations, and all words in a claim must be considered in judging the patentability of that claim against the prior art. MPEP § 2142; In re Royka, 490 F.2d 981, 180

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USPQ 580 (CCPA 1974); In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA

1970). In the prior art of record, there simply is no teaching of any system state information that

is saved and/or interpreted to automatically configure an underlying system, including a storage

mechanism on that system. As a result, applicants submit that the Office Action has not

established a *prima facie* case of obviousness as a matter of law, and that the claims are clearly

patentable over the prior art of record. Clearly neither McGill nor Hugard, whether considered

alone or in any permissible combination, comes close to meeting these requirements, as neither

reference considers the preservation and/or use of system state information as recited in the

claims, let alone system state information related to the automatic configuration of a storage

mechanism.

Notwithstanding, with respect to claim 1, for example, the Office Action contends that

"McGill discloses the capability of data information including operating system files, system

configuration files, device driver files, and any other files necessary to properly configure and

operate the workstation." Office Action, page 5. Significantly, however, this is incorrect with

respect to configuration of a storage mechanism, as McGill does not save and/or utilize any

storage mechanism configuration data to automatically configure a storage mechanism and create

a restoration environment therefrom, in contrast to claim 1 and other claims. On the contrary, as

specifically taught by McGill, any hard-disk configuration refers to copying data files to an

already-prepared hard disk, or refers to a set of manual operations and manually run programs in

which an operator must perform a significant amount of decision making, for example in having

to determine if the hard drive being restored is to be partitioned or formatted, and then manually

doing what is necessary to match that decision, e.g., run an FDISK program, run various versions

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of a format program, and so on. McGill, column 7, lines 15-53. In other words, in contrast to the present invention, the necessity of requiring an operator to prepare the environment as taught by McGill involves many decisions, the use of many disjoint and separate programs, and the performance of other operations, and thus suffers from essentially the same problems and drawbacks as referred to in the background section of the specification of the present application. In fact, McGill teaches away from the applicant's invention as essentially claimed, e.g., in claim 1 wherein the saved system state information is used to restore the underlying system state, including automatically configuring the storage mechanism. By law, if prior art, in any material respect teaches away from the claimed invention, the art cannot be used to support an obviousness rejection. *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed Cir. 1997).

For at least the foregoing reasons, the prior art of record, whether considered alone or in any permissible combination, fails to disclose or suggest any of the claims. Reconsideration and withdrawal of the rejections of claims 1-55 is respectfully requested.

Moreover, applicants note that much of the alleged motivation in the Office action for combining McGill with Hugard is directed to restoration of conventional files, not the configuration of a storage mechanism, and to the extent understood, appears to come from applicants' teachings. For example, error handling, high reliability and flexibility, improved performance, reduction in errors and so forth are significant improvements taught by applicants, not by the prior art. Indeed, considering the § 103(a) rejection as a whole, it is evident that the references could only have been selected and combined to reject the claims by using the impermissible hindsight knowledge learned from applicant's teachings. For example, to make up

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for the deficiencies in McGill, it appears that the Office Action selected Hugard for its use of the term "configuration," even though the "configuration data" of Hugard referred to in the Office action is a set of conventional files, which are not used to configure a storage mechanism, but only to restore data files to an already-configured storage mechanism. Clearly applicants' teachings were impermissibly used to combine the references in an attempt to piece together applicants' claimed invention.

Such a hindsight reconstruction based on applicants' teachings is impermissible by law, as in order to support a § 103(a) rejection, there must be some teaching, suggestion, or motivation other than applicants' teachings for modifying a cited reference or combining references to achieve the claimed invention. The Office Action does not indicate any suggestion or motivation in the prior art of record, either explicit or otherwise, for modifying the references or combining the references in a manner that would achieve the claimed invention, or point out any teaching as to how such a modification or combination might be accomplished, or what might be accomplished thereby.

For at least the foregoing reasons, applicants submit that the § 103(a) rejections are improper as a matter of law, and further submit that even if somehow permissible to combine with McGill with Hugard, the claims of the present invention are still patentable over any such combination. Reconsideration and withdrawal of the rejections is respectfully requested.

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CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that claims 1-55 of the

present application are patentable over the prior art of record, and that the application is in good

and proper form for allowance. For at least the foregoing reasons, no new issues have been raised

by this amendment, and thus the applicants request that the Examiner enter the amendment and

reconsider and withdraw the rejections of the pending claims. If in the opinion of the Examiner a

telephone conference would expedite the prosecution of the subject application, the Examiner is

invited to call the undersigned attorney at (425) 467-5686.

Respectfully submitted,

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